

REMARKS

Claims 1-6 and 16-28 are pending in this application. Claim 1 is amended herein. Claims 7-15 have been canceled. Claims 16-28 are added herein. Applicant respectfully requests reconsideration of the claims in view of the following remarks.

Claim 1 was objected to for being unclear, and the Examiner required correction. Applicants have considered the remarks and have amended Claim 1 in order to clarify it in the manner indicated by the Examiner. Accordingly, Applicant respectfully requests that the objection be withdrawn.

Claim 1 was also amended to correct a typographical error. The summary and the specification throughout, make plain that the deposited layer advantageously invented by Applicant is to be selected from the group Si, Al, Al plus TiN, and IrO₂. (See for example the first line of paragraph 6). The language of Claim 1 erroneously recited SiO₂ instead of IrO₂, this is corrected by the amendment herein.

Claims 7-15 are canceled without prejudice herein as being withdrawn as they are drawn to a non-elected species, pending the possible later filing of a divisional application drawn to the species including these claims.

Claims 1-6 were rejected under 35 U.S.C. § 103 as being unpatentable over Ashida 6,365,420 in view of Honda 6,645,632. This rejection is hereby respectfully traversed.

With respect to Ashida, the Examiner remarks that the reference teaches, in Figure 5, a method of fabricating a high dielectric capacitor structure, the method comprising depositing an adhesion layer 31 on an SiO₂ substrate, and depositing a noble metal bottom electrode (lower electrode 32) on the adhesion layer (31). The Examiner then admits that the primary reference does not provide depositing the adhesion layer being selected from the group claimed by

Applicant as the invention, that is, at least one of Si, Al, Al plus TiN, and IrO₂. (The Examiner, following the earlier version of Claim 1, recited SiO₂ here, but that material is incorrect and should be IrO₂ as explained above).

The Examiner cites Honda et al. as teaching aluminum as an “adherend material”, and specifically cites col. 12, lines 50-56. The Examiner concludes that based on the disclosure of aluminum in Honda, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ashida by using “Al material for an adhesion layer as taught by Ashida (?sic it appears this should have been Honda) for providing a good adhesion.”

Applicant respectfully responds that the Examiner has incorrectly applied Honda. The Honda reference teaches Al as an “adherend”. An adherend, according to Webster’s Ninth New Collegiate Dictionary 56 (Merriam Webster, 1990), is “ 1) the surface to which an adhesive adheres, or 2) one of the bodies held to another by an adhesive.”

Applicant submits that Honda teaches providing an epoxy resin thin film adhesive (see e.g., Abstract) for bonding semiconductor components. Applicant has reviewed the Honda reference at the places referred to by the Examiner and finds that in Col. 12 Honda teaches an adhesive formed of a polyimide resin, which is a thin film of resin for adhering electronic components. Honda teaches that the thin film resin adhesive may be used in a thermocompression method to bond electronic components. Honda also teaches, in Col. 12 as specifically referred to by the Examiner, that the resin thin film adhesive is heat-curable, and a method is described for bonding which has good results for “... *adherend materials* including metals such as aluminum, nickel, gold, copper, platinum...” (Col. 12, lines 51-55, emphasis added).

Thus, in contrast to the deposited layer advantageously recited and claimed by Applicant, Honda teaches that additional adhesive of a thin film resin is required to adhere metals, such as aluminum, to other layers. That is, Honda does not teach aluminum as the adhesion layer, in contrast Honda discloses using an epoxy resin to adhere aluminum to other layers. Applicant submits that the proposed combination of Ashida and Honda therefore would not make Applicant's invention obvious. Instead, if such a combination were made, an additional epoxy resin adhesive layer would then be used to adhere layers to the insulator. Further, because Honda uses a resin adhesive, there is in fact no suggestion to combine Honda with the method of Ashida and so the relied-upon combination is not available as an obviating reference.

In conclusion, Applicant submits that the combination of Ashida and Honda relied upon by the Examiner does not show, teach or suggest the steps recited in Applicant's claim 1 for depositing the inventive layer, that is, depositing at least one of Al, Al and TiN, Si, or IrO₂. Accordingly, Applicant concludes that the method of claim 1 is unanticipated by and unobvious over either reference and the combination, and thus claim 1 is allowable. Reconsideration and allowance are requested for claim 1.

Claims 2-6 were also rejected. Each of these dependent claims recite additional steps on the allowable method of claim 1, and accordingly, are also believed to be allowable over the rejection. Applicant respectfully requests reconsideration and allowance for these claims.

Claims 16- 28 are added herein and recite additional patentable features of Applicant's invention. Claims 16-21 depend from and recite additional steps on claim 1. Claims 22 and 27 are independent claims each of which recite, in addition to other limitations, the deposited layer similar to that of claim 1. These new claims are believed to be allowable for the reasons submitted above. Consideration and allowance are therefore respectfully requested.

Applicant has made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Mark E. Courtney, Applicant's attorney, at 972-732-1001 so that such issues may be resolved as expeditiously as possible. No fee is believed due in connection with this filing. However, should one be deemed due, the Commissioner is hereby authorized to charge Deposit Account No. 50-1065.

Respectfully submitted,

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Date

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